

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Currently Amended) A method for verifying the integrity of sensor data comprising:
receiving a first data value from the sensor having a first parameter that exceeds a first threshold value;
comparing determining that the a-first parameter relating to the first data value to a-exceeds the first threshold value;
~~—— receiving a second data value from the sensor;~~
~~—— comparing a first parameter relating to the second data value to the first threshold value;~~
continuing receipt of data from the sensor ~~when after determining that~~ the first parameter relating to the first data value exceeds the first threshold value ~~and the first parameter relating to the second data value does not exceed the first threshold value;~~ and
receiving a second data value from the sensor, after determining the first parameter relating to the first data value exceeds the first threshold value, the second data value having a first parameter that exceeds the first threshold value;
determining that the first parameter relating to the second data value exceeds the first threshold value after determining a first parameter relating to the first data value exceeds the first threshold; and
terminating receipt of data from the sensor ~~in response to determining that the first parameters relating to the first and the second data values exceed the first threshold value when the first parameter relating to the first data value and the first parameter relating to the second data value exceed the first threshold value.~~
2. (Original) The method of Claim 1, wherein the sensor is a glucose sensor.
3. (Original) The method of Claim 2, wherein the data value is a blood glucose concentration.
4. (Original) The method of Claim 1, further comprising discarding the first data value when the first parameter relating to the first data value exceeds the first threshold value and the first parameter relating to the second data value does not exceed the first threshold value.

5. (Original) The method of Claim 1, wherein the first parameter relating to the first data value is a second-order derivative of the first data value, and

wherein the first parameter relating to the second data value is a second-order derivative of the second data value.

6. (Original) The method of Claim 1, wherein the first parameter relating to the first data value is a first-order derivative of the first data value, and

wherein the first parameter relating to the second data value is a first-order derivative of the second data value.

7. (Original) The method of Claim 1, further comprising:

comparing a second parameter relating to the first data value to a second threshold value;

continuing receipt of data from the sensor when the first parameter relating to the first data value exceeds the first threshold value, the second parameter relating to the first data value exceeds the second threshold value, and the first parameter relating to the second data value does not exceed the first threshold value; and

terminating receipt of data from the sensor when the first parameter relating to the first data value exceeds the first threshold value, the second parameter relating to the first data value exceeds the second threshold value, and the first parameter relating to the second data value exceeds the first threshold value.

8. (Original) The method of Claim 7, wherein the sensor is a glucose sensor.

9. (Original) The method of Claim 7, wherein the data value is a blood glucose concentration.

10. (Original) The method of Claim 7, further comprising discarding the first data value when the first parameter relating to the first data value exceeds the first threshold value, the second parameter relating to the first data value exceeds the second threshold value, and the first parameter relating to the second data value does not exceed the first threshold value.

11. (Original) The method of Claim 7, wherein the first parameter relating to the first data value is a second-order derivative of the first data value,

wherein the first parameter relating to the second data value is a second-order derivative of the second data value, and

wherein the second parameter relating to the first data value is a first-order derivative.

12. (Original) The method of Claim 1, wherein terminating receipt of data from the sensor occurs when first parameter relating to the second data value exceeds the first threshold value within a predetermined period of time.

13. (Original) The method of Claim 7, wherein terminating receipt of data from the sensor occurs when the first parameter relating to the second data value exceeds the first threshold value within a predetermined period of time.

14. (Original) The method of Claim 3, wherein the first threshold varies depending on the blood glucose concentration.

15. (Original) The method of Claim 8, wherein the second threshold varies depending on the blood glucose concentration.

16. (Original) The method of Claim 7, wherein the second threshold varies depending on the blood glucose concentration.

17.-25. (Cancelled).

26. (Currently Amended) A method for calibrating a sensor comprising:
receiving a plurality of data values from the sensor;
determining the reliability of each data value of the plurality of data values;
discarding data values after receiving at least two of the plurality of data values that are unreliable;
filtering the data values of the plurality of data that have not been discarded; and
adjusting an output of the sensor using the filtered data values.

27. (Original) The method of Claim 26, wherein the sensor is a glucose sensor.

28. (Original) The method of Claim 26, wherein the plurality of data values are blood glucose concentrations.

29. (Original) The method of Claim 26, wherein determining the reliability of each data value comprises comparing each data value to a predetermined threshold.

30. (Original) The method of Claim 26, wherein determining the reliability of each data value comprises comparing a parameter related to each data value to a predetermined threshold.

31. (Original) The method of Claim 30, wherein the parameter is a second-order derivative.

32. (Original) The method of Claim 30, wherein the parameter is a first-order derivative.

33. (Original) The method of Claim 30, wherein the predetermined threshold varies depending on a current plurality of data values.

34. (Original) The method of Claim 30, wherein the current plurality of data values are blood glucose concentrations.

35. (Original) The method of Claim 30, wherein discarding data values comprises discarding data values that do not meet a pre-established criterion related to the predetermined threshold.

36. (Original) The method of Claim 26, wherein filtering the data values comprises filtering the data values with an adaptive filter.

37. (Original) The method of Claim 26, wherein the adaptive filter is a Kalman filter.

38. (Original) The method of Claim 36, wherein filtering the data values with an adaptive filter comprises using the adaptive filter with a parameter based on the data values of the plurality of data that have not been discarded.

39. (Original) The method of Claim 38, wherein the parameter is a standard deviation of the data values of the plurality of data that have not been discarded.

40. (Original) The method of Claim 38, wherein the parameter is a standard deviation of an absolute value of data values within the data values of the plurality of data that have not been discarded.

41. (Original) The method of Claim 39, wherein the standard deviation is a windowed, unweighted standard deviation.

42. (Original) The method of Claim 39, wherein the standard deviation is a recursive, weighted standard deviation.

43. (Currently Amended) An apparatus for verifying the integrity of sensor data comprising:
means for receiving a first data value from the sensor having a first parameter that exceeds a first threshold value;

means for ~~comparing~~ determining that the a first parameter relating to the first data value ~~to a~~ exceeds the first threshold value;

~~means for receiving a second data value from the sensor;~~

~~means for comparing a first parameter relating to the second data value to the first threshold value;~~

means for continuing receipt of data from the sensor after determining that when the first parameter relating to the first data value exceeds the first threshold value ~~and the first parameter relating to the second data value does not exceed the first threshold value~~; and

means for receiving a second data value from the sensor, after determining the first parameter relating to the first data value exceeds the first threshold value, the second data value having a first parameter that exceeds the first threshold value;

means for determining that the first parameter relating to the second data value exceeds the first threshold value after determining a first parameter relating to the first data value exceeds the first threshold; and

means for terminating receipt of data from the sensor in response to determining that the first parameters relating to the first and the second data values exceed the first threshold value~~when the first parameter relating to the first data value and the first parameter relating to the second data value exceed the first threshold value~~.

44. (Original) The apparatus of Claim 43, wherein the sensor is a glucose sensor.

45. (Original) The apparatus of Claim 44, wherein the data value is a blood glucose concentration.

46. (Original) The apparatus of Claim 43, further comprising means for discarding the first data value when the first parameter relating to the first data value exceeds the first threshold value and the first parameter relating to the second data value does not exceed the first threshold value.

47. (Original) The apparatus of Claim 43, wherein the first parameter relating to the first data value is a second-order derivative of the first data value, and

wherein the first parameter relating to the second data value is a second-order derivative of the second data value.

48. (Original) The apparatus of Claim 43, wherein the first parameter relating to the first data value is a first-order derivative of the first data value, and

wherein the first parameter relating to the second data value is a first-order derivative of the second data value.

49. (Original) The apparatus of Claim 43, further comprising:

means for comparing a second parameter relating to the first data value to a second threshold value;

means for continuing receipt of data from the sensor when the first parameter relating to the first data value exceeds the first threshold value, the second parameter relating to the first data value exceeds the second threshold value, and the first parameter relating to the second data value does not exceed the first threshold value; and

means for terminating receipt of data from the sensor when the first parameter relating to the first data value exceeds the first threshold value, the second parameter relating to the first data value exceeds the second threshold value, and the first parameter relating to the second data value exceeds the first threshold value.

50.-56. (Cancelled).

57. (Currently Amended) An apparatus for calibrating a sensor comprising:

means for receiving a plurality of data values from the sensor;

means for determining the reliability of each data value of the plurality of data values;

means for discarding data values after receiving at least two of the plurality of data values |
that are unreliable;

means for filtering the data values of the plurality of data that have not been discarded;
and

adjusting an output of the sensor using the filtered data values.

58. (Original) The apparatus of Claim 57, wherein the sensor is a glucose sensor.

59. (Original) The apparatus of Claim 57, wherein the plurality of data values are blood glucose concentrations.

60. (Original) The apparatus of Claim 57, wherein means for determining the reliability of each data value comprises means for comparing each data value to a predetermined threshold.

61. (Original) The apparatus of Claim 57, wherein means for determining the reliability of each data value comprises means for comparing a parameter related to each data value to a predetermined threshold.

62. (New) The method of claim 1, further comprising displaying a blood glucose level derived from the data values received after the first data value exceed the first threshold value to a patient.

63. (New) The method of claim 62, wherein terminating receipt of data from the sensor further comprises terminating displaying the data values to the patient after, both, the first parameter of the first data value exceeds the first threshold value and the first parameter of the second data value exceeds the first threshold value.

64. (New) The method of claim 1, further comprising terminating processing the data values to determine a glucose value from the data values.

65. (New) The method of claim 1, wherein terminating receipt of the data occurs when both the first parameter of the first data value and the first parameter of the second data value exceed the first threshold value within 1 hour.

66. (New) The method of claim 43, further comprising means for displaying a blood glucose level derived from the data values received after the first data value exceed the first threshold value to a patient.

67. (New) The method of claim 66, wherein the means for terminating receipt of data from the sensor further comprises means for terminating displaying the data values to the patient after, both, the first parameter of the first data value exceeds the first threshold value and the first parameter of the second data value exceeds the first threshold value.

68. (New) The method of claim 43, further comprising means for terminating processing the data values to determine a glucose value from the data values.

69. (New) The method of claim 1, wherein means for terminating receipt of the data terminates receipt in response to both the first parameter of the first data value and the first parameter of the second data value exceeding the first threshold value within 1 hour.